WHY TOWN PLANNING.

HISTORICAL.

While town planning in its present form is the product of the last quarter century and was greatly stimulated by the automobile, yet planning of some sort has been practiced almost since cities were first built. Little is known of the Egyptian, Babylonian, Assyrian and Persion Cities of 7000 years ago but it appears probable that they were laid out with streets at right angles and with processional ways leading from one end to the other. Curiously enough the houses were mostly circular.

The remains of ancient Kahun in Egypt, which flourished 3000 to 1500 B.C., are well enough preserved to show that it was laid out with a definite plan. The dwellings were arranged along rectangular lines - the smaller ones having 4 or 5 rooms with steps leading to the roof. There was a small acropolis on higher ground which served as a centre for worship and government. The streets had a stone channel in the middle for carrying off the water. The inhabitants worked on the Illahun pyramid.

Babylon in Assyria flourished from about 1800 B.C. until the time of Christ and was rectangular in shape with streets at right angles. It was a walled city with numerous gates piercing the long wall. Ishtars gate at the end of the broad "Sacred Way" was apparently its crowning feature. The city contained woods, gardens, courts and terraced towers. The Hanging Gardens of Nebuchadnezzar, built for his Median Queen, have long been famous. According to Herodotus the houses were three and four stories high and the city wall was 50 miles long, 30 feet thick and 300 ft. high. The accuracy of this description, especially the latter figure, is not vouched for but

would appear to be the product of some tall story club.

Athens is so well preserved that a fairly accurate idea may be obtained of the ancient city of the age of Pericles. No other city, except perhaps Imperial Rome, was ever adorned with such an array of temples, public buildings and works of art. In the Golden Age it contained almost half a million people of which a third lived in city proper. The famous acropolis, about 1000 x 500 ft. in area and elevated 500 feet above the city proper, was planned as a fortress, a sacred reserve and a museum of art. There were open gymnasia and theatres but the streets were very narrow, some not over 10 feet, and the houses are reported as "hovels on tortuous lines". It is said that the streets were so narrow that the occupants of the houses would knock on the inside of their doors before opening them in order to prevent knocking down some one on the outside.

According to Aristotle, Hippodamos of Miletus was the first to introduce the idea of laying out cities on a regular plan and to him should perhaps be given the title of the father of city planning. Piraeus was his most outstanding accomplishment for here he endeavored to subject a whole group of buildings to uniform architectural treatment. He tried to substitute "clear, reasoned and scientific conceptions for Chance". He favored wide straight streets laid out in rectangles.

Imperial Rome, at the dawn of the second century A.D. was a crowded city that had developed unsystematically with narrow winding streets. It had however been beautified with bridges, parks, triumphal arches and fine buildings. The fora were the outstanding feature and here the citizens gathered to discuss questions of the day amid impressive surroundings. The influence of Rome is seen

in the design of many Roman towns in which two main streets meet at right angles and lead to the four principal gates in the surrounding wall. These cities usually had as the chief point of interest a paved open forum with a width of 2/3 its length.

The next city planner of note was probably the Roman architect Marcus Vitrovius Pollio who lived in the first century B.C. and whose writings so impressed Julius Caesar that he pensioned him for life. His studies included sites and the nature of the soil for cities, development of harbors and quays, location of theatres and hydraulic matters.

The early Medieval Cities of Europe grew up around castles or monasteries and were inspired by war or the fear of war. Safety from invasion was the dominant note. This resulted in congestion because it was necessary to have the defending wall as short as possible. Sanitary conditions were very bad and the streets were without lights or patrol so that the night dangers were an ever present factor in the life of the people.

During the Renaissance some improvement took place in city planning. Streets were made wider and straighter in order to set off the fine public buildings. Streets were arranged to converge upon them and monuments and stairways and fountains were used for decorative purposes. Open squares became more popular. During this period the magnificent piazza of St. Peters, Piazza del Campidoglio and other decorative schemes were developed. Bramanti was responsible for much of this work in Rome and Palladio also made an impress on several town planning enterprises.

Bernini, in the middle of the second century was for 50 years dictator of the artistic taste and achievement of the papacy and was responsible for the beautiful colonnade of St. Peters in Rome and Versailles in France.

PLANNING IN AMERICA.

The typical layout of the old New England towns consisted of one wide street with narrower cross streets, the meeting house in a conspicuous spot, often on a hill, a common and a town hall; in short the Main Street idea. The wide main street, which seemed somewhat unnecessary in old times, proved its value with the advent of the automobile. In Williamsburg, Va. a most unusual and charming place was evolved in which the capitol and the college sites were interrelated at opposite ends of a wide street with radiating streets running to other communities. Most of the old cities and towns just grew up like Topsey and but few were carefully planned.

Amongst these were Philadelphia, Reading, Savannah, New Orleans, Detroit and Washington. The original plan for Philadelphia, made under the direction of William Penn, provided for a rectangular pattern of streets, a great square at the intersection of the two main streets and four other open spaces. Annapolis, Detroit and Washington contained radial streets in addition to the rectangular layout. Boston developed from cow paths and has suffered ever since from streets that are too narrow and winding. Immense sums have already been spent to remedy these defects and the end is not yet in sight.

The plan of Washington, D. C. is of particular interest and was the most pretentious scheme attempted in America at the time. George Washington originated the idea and delegated the important task of developing it to Major Pierre Charles L'Enfant and he became perhaps the first notable town planner in America. He was born in Paris in 1754 and served as a volunteer in the corps of engineers in the Revolutionary Army. The son of a noted painter and educated as

an architect and engineer, he combined in his plan both engineering skill and artistic ideas. His plan, which was carried out to a considerable extent, made the important public buildings the focal point for both rectangular and diagonal streets. Monuments and parks were located in left over spaces not suitable for buildings. The two main nuclei, the Capitol and the White House, were ~~constructed~~ connected by an important diagonal later known as Pennsylvania Ave. The Mall, a great open park 400 feet wide, ran from the capitol toward the river and was connected in an L shaped fashion with a park running to the White House. Unfortunately the Mall was neglected in the early days and became built up with inappropriate structures.

Finally in 1901 the so-called McMillan Commission consisting of Burnham, McKim, St. Gaudens and the elder Olmsted, reported and emphasized the importance of carrying out the L'Enfant plan in more detail. They were authorized to make certain changes including the removal of the old railroad station on the Mall and the building of the new Union Station. Since then improvements have progressed under the direction of the Fine Arts Commission (1910), the National Park Commission and finally in 1926 the National Park and Planning Commission, of which Mr. Frederick Law Olmsted, Jr. is a member. Largely on account of the excellent town plan of L'Enfant back in 1791 Washington "occupies a position of unique beauty and character amongst the cities of America".

Industry, commerce and transportation have played an important part in the development of cities during the past 100 years. While in 1858 Baron Haussman under Napoleon III spent 50,000,000 livres in beautifying Paris, City planning today is guided more by economic and social than by aesthetic influences. Yet who will say that the

money spent by Napoleon was wasted.

Amongst the earliest efforts in America for better town planning was the work of the village improvement society which had its inception ih Stockbridge, Mass. in 1853. Another important factor was the interest in creating large parks in congested districts as exemplified in Central Park, New York 1857, the Chicago Park system 1869 and the Boston Metropolitan Park System of 1875.

Another influence was the better housing housing movement started by the New York Housing Commission in 1857 and taken up in many cities. The beautiful Columbia Exposition of 1893 in Chicago was conceived by some of the best minds in the country, including Burnham and the Senior Olmsted, and proved a great stimulus to the idea of a City Beautiful. The creation of attractive Civic centres in Springfield, Mass., Chicago and Cleveland was the next movement and was partly the result of the Columbian Exposition. Gradually the American mind is coming to realize the importance of proper planning not alone from the aesthatic but also from economical advantages which result.

During the World War a great stimulus was given to scientific planning, somewhat at the expense of the artistic however, in the creation of emergency camps and towns. The U. S. Housing Corp. planned 128 towns or groups and spent over $110,000,000 on them, while at the same time the Housing Department of the Emergency Fleet Corp. built 87 towns at a cost of some $70,000,000.

Since the war, the idea of town planning and zoning has grown rapidly, stimulated in part by the activities of a number of local and national organizations like the American Civic Association. This organization, founded in 1904, has for its object the cultivation of higher ideals of civic life and more attractive cities and towns.

The work of city planning became so important that in 1910 the National Conference of City Planning was organized with Frederick Law Olmsted, Jr. as first president. In 1917 the City Planning Institute, a somewhat more technical organization, was founded.

Other National organizations interested ih the subject are the National Housing Association (1911), Federated Societies on Planning and Parks (1926) and the International Federation on Housing and Planning.

In 1913 official recognition of city planning was given in Massachusetts when the legislature enacted a law requiring planning boards in all municipalities of over 10,000 population and in 1914 amending it making them optional in smaller communities. This was followed in 1915 by the organization of the Massachusetts Federation of Planning Boards, a semi-official organization to which all planning boards belong and which hold yearly conferences and distributes valuable literature in town planning matters.

In 1920 the Mass. State Zoning Enabling Act was passed.

The U. S. Department of Commerce has actively encouraged city planning for several years and has published several important pamphlets on the subject including:

A Standard City Planning Enabling Act 1927.

A Standard State Zoning Enabling Act 1926.

A City Planning Primmer 1928.

A Zoning Primmer 1926.

In 1909 Harvard University inaugurated a course in City Planning in connection with the course in Landscape Architecture. In 1923 this was followed by a full technical course in City Planning leading to a Master's degree and later this was organized into the graduate school of City Planning at Robinson Hall. This school,

aided by the Rockfeller Foundation, aims not only to train men as town planners but also to give a sound conception of the subject to architects and engineers. While other Universities took up the subject later Harvard was the leader in the matter.

Several magazines have been founded primarily to advance the subject of City Planning amongst which are the American City and City Planning. There are 117 books on the subject listed in a recent book by Thomas Adams entitled "Recent Advances in City Planning".

Amongst the more important names connected with this movement should be mentioned Frederick Law Olmsted, Sr. of Brookline, who was largely responsible for Central Park, N.Y., and of whom it has been said "the City Planning movement started with him", Charles Eliot his co-worker who was the principal designer of the Metropolitan Park System of Boston, Daniel H. Burnham associated with work in Chicago, San Francisco and Washington - Charles Mulford Robinson professor at the University of Illinois, James Sturgis Pray - long a teacher at Harvard, George B. Ford, F. L. Olmsted, Jr., E. M. Basset, John Nolen, Lawson Purdy, Arthur Comey, Robert Whitten.

During the last quarter century city planning has grown by leaps and bounds so that in 1930 650 cities in America had planning Commissions, 176 cities had been actively planned and 356, or over 2/5 the urban population, had been zoned. While the planning idea is growing this growth is somewhat retarded by the indifference of the general public and the antagonism of the politician. The general public knows practically nothing about the subject and is not inclined to back up the members of their planning boards whom they look upon as cranks who want to spend a lot of

money on unnecessary projects.

The politicians in many municipalities fear that the planning boards, which are made up for the most part of unpaid public spirited citizens of high ideals, will by inaugurating improvements take from them some of their power, glory and possibly some of their patronage.

OBJECT.

What is it that the town planner is trying to do? Amongst other things he is trying "to create a picture and a program toward which a city should grow in order to obtain the best results". He tries to use "far reaching scientific methods to guide development instead of the hap-hazard or selfish method of the land speculator, the railroad engineer or the individual owner". He tries to stimulate interest in his community. He desires to improve the health, safety, morals, order and convenience of his town by seeing that there are suitable parks, monuments and public buildings. By developing good zoning ordinances to limit height, area, bulk, location and use of premises, he stabilises property values and makes cities more attractive places in which to live as well as more economical places in which to do business. He tries to give the people the best possible environment. He tries to safeguard life by reducing traffic dangers.

Thomas Adams says "Town planning is the art of shaping and guiding the growth of towns in harmony with social and economic needs". It is architecture and engineering applied to town building.

When one considers the phenominal growth of our American cities, the need of properly planning them becomes apparent. Between 1890 and 1930, 1748 new cities of over 2500 population had come into existence. Between 1921 and 1929 an average of 400,000 dwellings

were built each year. In 1880 it is said that only 3% of our population lived in cities while in 1920 the percentage had risen to 56.2%. The failure to provide in advance for this astonishing growth results in congestion in traffic involving inconvenience, loss of time and accidents as well as in unhealthy and undesirable living conditions. The aims of city planning are hygienic, economical, social and ethical. It is foresight, common sense and good judgment applied to city building. The Boston Herald said a few years ago "Instead of denouncing our ancestors for not foreseeing our 20th Century traffic needs, we ought to put more vim into discovering what equally great needs of posterity we ourselves are overlooking."

WHAT IS THE JOB.

In Massachusetts planning boards are unpaid and have no power to enforce their suggestions. The town planning enabling act of 1913 states that all cities and towns of over 10,000 inhabitants shall and those under 10,000 may, create a planning board which shall make careful studies of the resources, possibilities and needs of the town particularly with respect to conditions, injuries to the public health or otherwise in and about rented dwellings, and make plans for the development of the municipality with special reference to proper housing of its inhabitants. The standard city planning enabling act of the Department of Commerce goes further and states it shall be the function of planning boards to make and adopt a master plan for the physical development of the municipality which shall show recommendations for location, character of streets, viaducts, subways, bridges, boulevards, parks, location of public buildings, public utilities for water, light, sanitation, transportation, communication, power and other purposes; also the removal

relocation, widening changes of use or extension of the foregoing; also a zoning plan for the control of the height, area, bulk, location and use of buildings and premises.

PLANNING WORK.

While planning boards usually have no power to carry out their suggestions they can do a great deal to beautify and improve their municipalities by making far reaching but practical plans from a disinterested point of view. As the members are not paid and act only in an advisory capacity a very high class of citizen has been attracted to these boards in Massachusetts.

An efficient board will make a city or master plan which will (1) suggested changes in built up portions which will improve transportation facilities, suggest new parks, boulevards, school sites, market centres and civic centres where needed. (2) Lay out streets in undeveloped suburbs on a plan that is scientific and in keeping with modern engineering ideas. This would also include parks, playgrounds, schools and other municipal buildings.

It is usually necessary to have the help of a professional town planner in such work for while planning board members may have vision, they have not the knowledge or experience which is possessed by those who make a business of following this new and complicated profession. The work is generally started by a survey which is the basis of a preliminary plan and later a final plan. The term final plan is however a misnomer as any such plan should be flexible and subject to changes due to the condition of flux of our modern civilation.

The laying out of a street plan in undeveloped suburbs is of the greatest importance but at present is a most difficult problem because of the state and federal laws which limit protection of these street locations before they are built upon.

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THE NICHOLS PLAN.

On this subject Mr. Philip Nichols says:

Growing communities should look ahead to the future and through public authority, such as a planning board, formulate an official map indicating the streets which it may be expected will be built in outlying districts when the increase in population demands further development. Otherwise no orderly development is possible as it will depend upon the whims of land owners.

The constitution of most of the states requires payment for private land taken for the public use. The constitution of the United States prohibits any state from depriving any person of his property without due process of law. These provisions have been construed to cover also injury to property as by flooding or by imposing undue restriction. It is however legal under "police power" to make certain restrictions for the benefit of "public health morals and safety" provided no discrimination is shown. Under the power of "eminent domain", land can be taken for public streets when payment for same is made.

There is some question as to how far it is legally possible to go in laying out proposed streets and preventing buildings from being erected in their beds. without compensating the owner for the easement or restriction imposed. It has however been done in many cases. Philadelphia, part of New York, Baltimore and Washington were built up under laws making such city maps valid but in most cases, except in Pennsylvania, these laws were later held to be unconstitutional. The taking of such land by eminent domain is not practical as no municipality wishes to pay for land which may or may not be later laid out as streets. A method of protecting the city map under police power has been suggested in New York and Florida

but its legality is doubtful.

Mr. Philip Nichols of Boston has suggested a solution to the problem known as the Nichols Plan which has been before the Mass. Legislature several times under the auspices of the Mass. Civic League and the Mass. Federation of Planning Boards. While it has not passed, it is now before the recess committee on town planning.

It is briefly as follows:

After the usual notice and hearing the map is filed with the registry of deeds and notice of this is given. The plan may be changed at any time by similar proceedings.

If the proposed street is laid out as a public way no damages shall be allowed to persons for any building they may have built in the bed of a proposed street after the plan was filed.

A person so affected may however file a suit for easement damages against the municipality within a year of the filing of the map. The municipality then has the option of accepting the verdict or changing the plan so that the owners property is not affected in which case he can collect only for the expense he suffered by the proceedings.

The thought is that very few such suits would ever be brought and that the municipality would be comparatively safe in establishing an official map.

ZONING.

Zoning is one of the latest phases of town planning and one of the most important. Pres. Hoover has defined Zoning as "reasonable neighborly agreements". Zoning had its beginnings centuries ago but its first real development occurred in Germany about 1894. Boston was one of the first American cities to adopt the idea when in 1903 the state legislature authorized the city to limit the height of

buildings. The city council thereupon specified a limit of 125 feet on wide streets and 80 ft. on narrow streets. This law was contested in the courts and was sustained. In 1909 Los Angles, on account of the influx of Chinese laundries in residential districts established a zoning system. Several suits were brought against the act but it was sustained and found constitutional in the Supreme Court.

In 1916 New York passed zoning regulations which were of far reaching importance as they formed a model for many other cities. They provided for resident sections, business sections and unrestricted sections. Buildings were limited both as to height and bulk.

Mass. passed a zoning enabling act in 1920 and since then 56 cities and towns have been comprehensively zoned beginning with Brockton in 1920 and followed by Brookline in May 1921. Eleven other municipalities have been zoned for "use" only and eleven more have interim zoning. In 34 towns zoning laws have been prepared but not adopted.

Zoning laws have been enacted in 47 states and the number of American municipalities zoned up to January 1930 was 856. These include a population of 30,000,000 or 3/5 the urban population of the country. The zoning ordinances have been found constitutional in many suits, the most important being in Ohio; Euclid vs Ambler Realty Co. This was carried to the U.S. Supreme court which decided that reasonable zoning is a proper exercise of police power. Under zoning the health, safety, morals, convenience, order, prosperity and general welfare of the people in the community are promoted.

Without zoning a city is likely to become a patchwork of

mixed uses, disorder and chaos. Residential sections are invaded by business uses and property is greatly depreciated.

Zoning prevents buildings for unsuitable uses from being built and tends to stabalize real estate values.

MASS. ZONING ACT.

The Massachusetts Zoning Enabling Act of 1920 states that a municipality may by ordinance restrict buildings, structures and premises to be used for particular industries to specified parts of the town or may exclude them entirely. They may also restrict certain kinds of dwellings and tenements to specified locations and require them to conform to regulations as to construction and use. For this purpose the municipality may be divided into districts or zones. The provision shall be carried out as will best prozote the health, safety, convenience and welfare of the inhabitants, lessen the danger from fire, tend to improve and beautify the town and will assist in carrying out schemes of municipal improvements suggested by the Planning Board or Board of Survey. Due regard shall be paid to the characteristics of the different parts of the town and the ordinances shall be the same for zones, districts or streets having the same character.

Other matters which planning boards should follow up are: Keeping in touch with all elements of growth, housing, zoning, building laws, traffic control, public buildings, billboards, dumping, building lines, parks, playgrounds, police, sewer, and water systems; in short everything affecting the welfare, happiness, comfort, convenience and prosperity of the people.

TRAFFIC PROBLEMS.

In laying out streets in undeveloped districts there are several schemes that have been successfully used.

1. Spider Web. This consists of radiating streets with circular circumferential streets. The plan grew up around forts and hunting parks which formed the focal centre. It is not much used today because in most locations it does not give a satisfactory development.

2. Checker Board. This consists of straight streets running at right angles. It has always been a very popular plan but it has the disadvantage of being monotonous and, because of the lack of diagonals, of making it difficult to reach certain distant corners quickly.

3. Checker Board with diagonals. This does away with the above objection but leaves bad shaped triangular lots where the diagonals intersect the checker board streets.

4. Hexagons. This is a novel scheme that has been proposed but never used to any extent. The great advantage is that it makes the street intersections much safer as the chance for accidents due to cross traffic is cut in half. While it makes odd shaped lots it lends itself to the idea of gardens and playgrounds in the centre of each lot which may be jointly owned by the abutters.

The Rathburn, N. J. Plan.

Rathburn, New Jersey, 17 miles from Manhattan, which is being developed as a residential town by the City Housing Corp., is considered one of the greatest housing experiments in America. It is an attempt to plan a community so that children and other pedestrians will be comparatively safe from the dangers of automobile traffic and so that the noise of traffic will be reduced to a minimum. The blocks are large and are intersected by a series of narrow lanes leading in most cases to dead ends. Over-passes and under-passes cross the main roads where necessary so that a person may take a 2 mile walk without having to dodge fast moving motor cars. Only 20% of the land is used for streets and alleys as against 35 to 40% in the average city. As a matter of fact the best type of layout depends upon local conditions. The hexagon scheme might be satisfactory in a residential suburb but not in a business district.

Width. The proper width of new streets depends upon the probable traffic and in general should never be less than 60 feet. With modern automobile traffic the street widths should be a multiple of 10 feet which is considered the proper width of a lane for one line of cars. Where an equal amount of traffic is expected in each direction the streets should be increased by 10 ft. intervals in order to give an additional lane of traffic in each direction. The number of lanes needed can be figured quite accurately by rules that have developed from experience. It is found that one 10 ft. lane will carry about 600 vehicles per hour so that where there is found to be 600 to 1200 vehicles per hour two lanes are necessary. On this basis streets should be either 60, 80, 100 or 125 ft. wide, although wider boulevards are often built, notably

a 204 ft. super-highway in Detroit.

In the above scheme 10 ft. sidwalks are used thus giving in a 60 ft. street two 10 ft. sidwalks and two 10 ft. lanes in each direction. Sidewalks are sometimes as narrow as 5 ft. and as wide as 12 ft. but 10 ft. is common practice.

Center strips or islands are very desirable on all wide streets carrying heavy traffic.

They prevent head on collisions.

" " glaring headlights blinding those going in the opposite direction.

They make a place of refuge for people crossing the street.

They make traffic circles possible at street intersections thus doing away with the necessity of stop lights.

In order to give proper turning radius for cars the islands should be at least 30 and preferably 40 ft. wide. Automatic or traffic actuated stop lights give good results on through highways where the traffic in the cross street is small.

Traffic Circles at the intersection of two or more heavily travelled streets have proved to be very successful when properly laid out. They should be 100 to 360 ft. in diameter so as to give a distance of about 120 ft. between the streets that enter the circle. This is necessary in order to allow for the weaving of traffic in the circle between the entering streets. Where the traffic is too heavy to be taken care of by a circle or when a circle is not practical for any reason the overpass becomes necessary. This is expensive but generally economical in the long run if we figure the lost of time, of gasoline and the damage to abutting property due

to the constant stopping and starting caused by stop lights.

The "clover leaf" intersection, so called, is the ideal arrangement as it allows a car to go in any direction on either street without interference from cross traffic.

The building of new thoroughfares, especially the so-called high speed super-highways is expensive and it is possible that it is being overdone. It certainly tends to create unnecessarily high speed and also makes unfair competition with railroads that have an expensive right of way to maintain and pay taxes upon. On the other hand when one considers the growing number of automobile accidents each year it is apparently justifiable to spend a large amount of money to reduce them. Recent figures for the United States give the number killed as 30,000 and the number injured as 500,000 per year . Unless something can be done to induce people to make less use of automobiles or to make the roads safer these figures will continue to grow.

It is said that 25% of the people in Boston go to their daily work in automobiles while the figure for Washington, D. C. is 55%. Most of the other large cities are between these limits. Most of the cars contain one or possibly two passengers. Is it any wonder that the streets are crowded?

It has been figured out by an engineer I know that Boston could better afford to build public parking garages for free use rather than to allow cars to be parked for hours at a time on crowded streets where the value of land is high. In New York, garages 25 stories high have been suggested where all the cars in 10 city blocks could be parked. In Dallas, Texas a novel scheme has been used in which automobiles are parked head on in a space in front of stores, the land used being paid for by the stores.

Mr. H. G. Wells has prophecied that London may grow to 20,000,000 inhabitants and New York and Chicago to 40,000,000. What will be the solution of the traffic problem in cities of this size? Possibly a radical change such as the substitution of airplanes for automobiles may make the solution easy.

Decentralization.

What is to be the future of our cities? Can they continue to grow indefinitely? Will not traffic be strangled to such an extent that it is no longer economical to do business? The answer seems to be decentralization. This is already showing itself in our large cities in the branch banks and stores being located in suburban and less congested districts . In the meantime there will be more and more need of town planners and town planning to keep the wheels of industry and commerce moving smoothly and to keep our cities fit places in which to live.

Edward Crane
1931